

**ACTIVE/PASSIVE MONOLITHICALLY INTEGRATED  
CHANNEL FILTERING POLARIZATION SPLITTER**

**ABSTRACT OF THE DISCLOSURE**

5 An InP on-chip polarization splitter is proposed base on an arrayed waveguide grating that is composed of waveguides having birefringence. The present invention also performs channel filtering and demultiplexing that is useful in WDM/DWDM applications. The required waveguide structure is formed using active-passive monolithic integration platforms, providing the  
10 integration of the polarization splitter with active devices as well as passive devices.